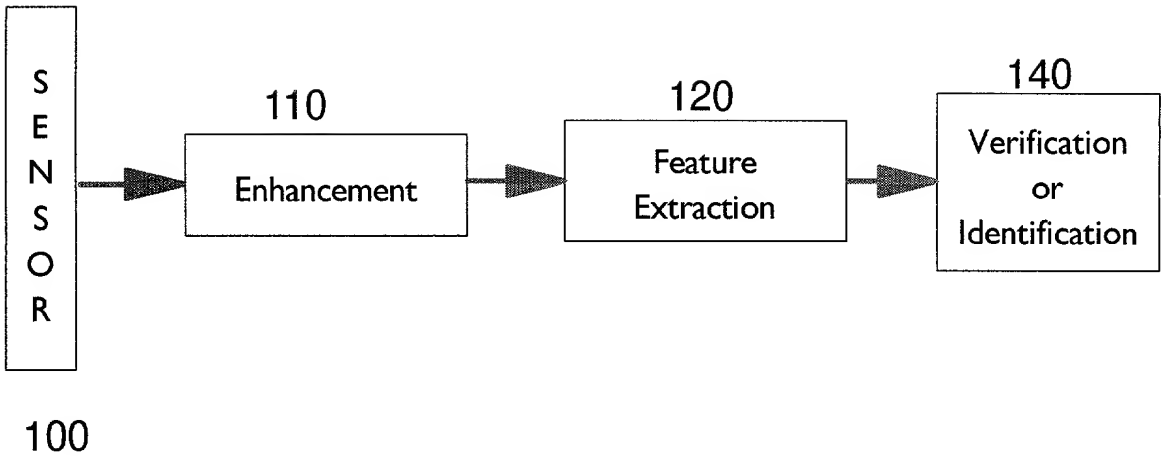
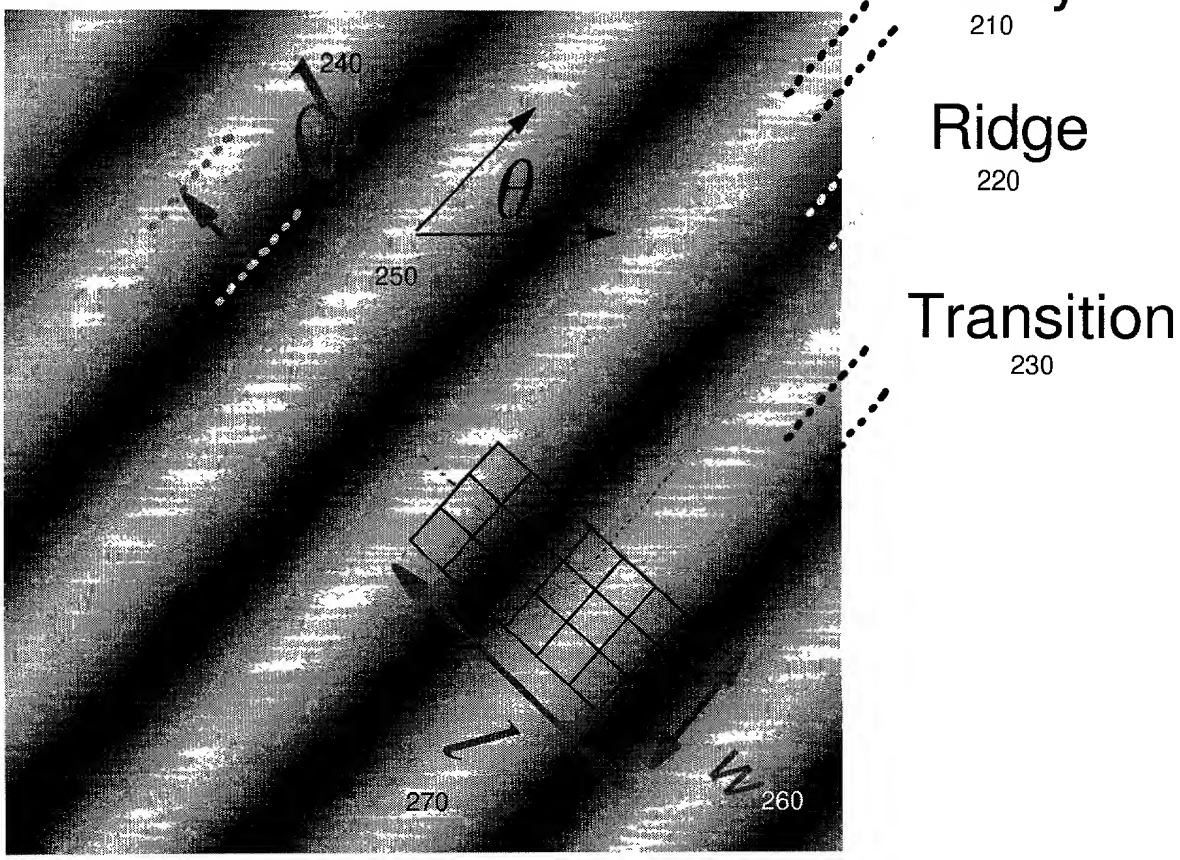
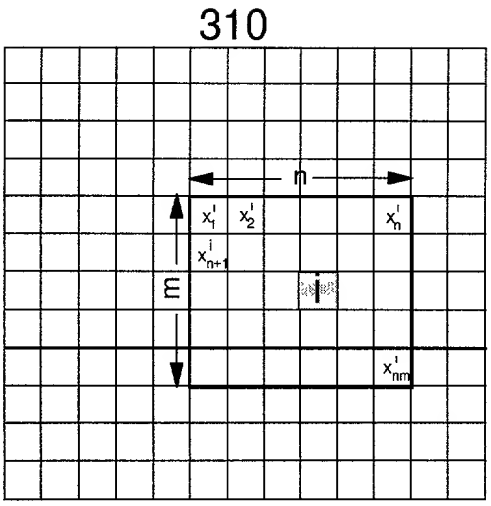
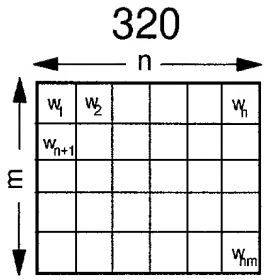

SENSOR
110
Enhancement
120
Feature Extraction
140
Verification or Identification

100


Valley
210
Ridge
220
Transition
230
240
250
270
260



Fingerprint subregion



Filter weights

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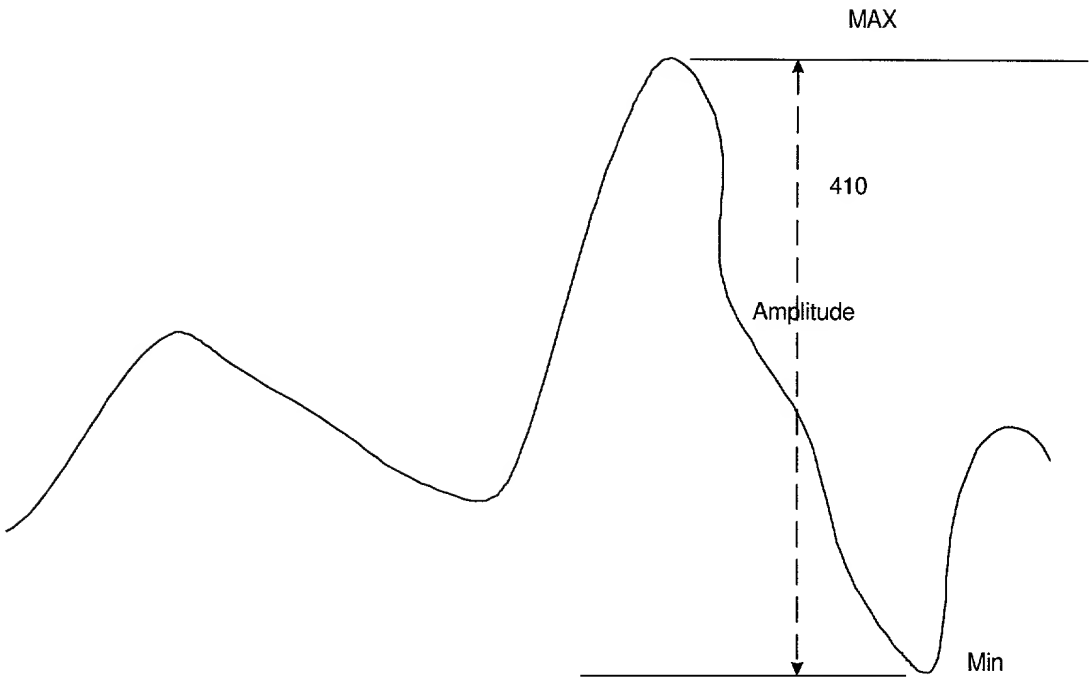
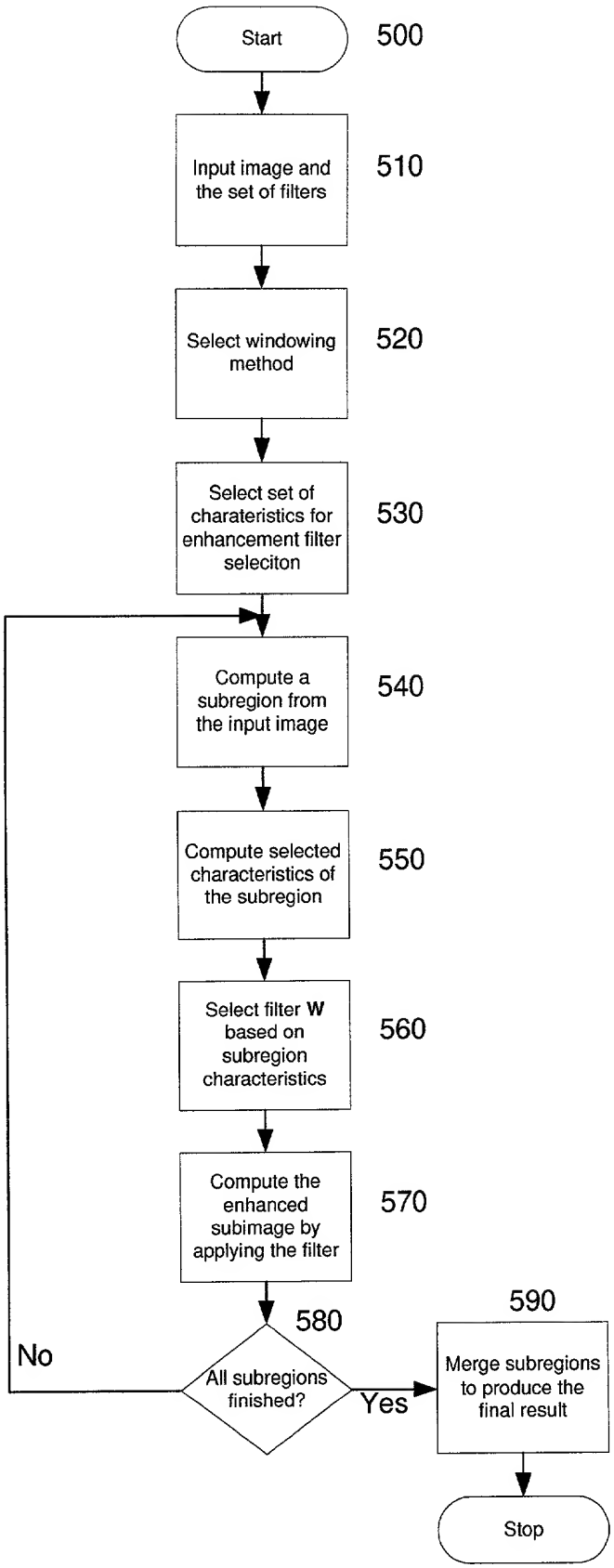


9656566 - 9656566



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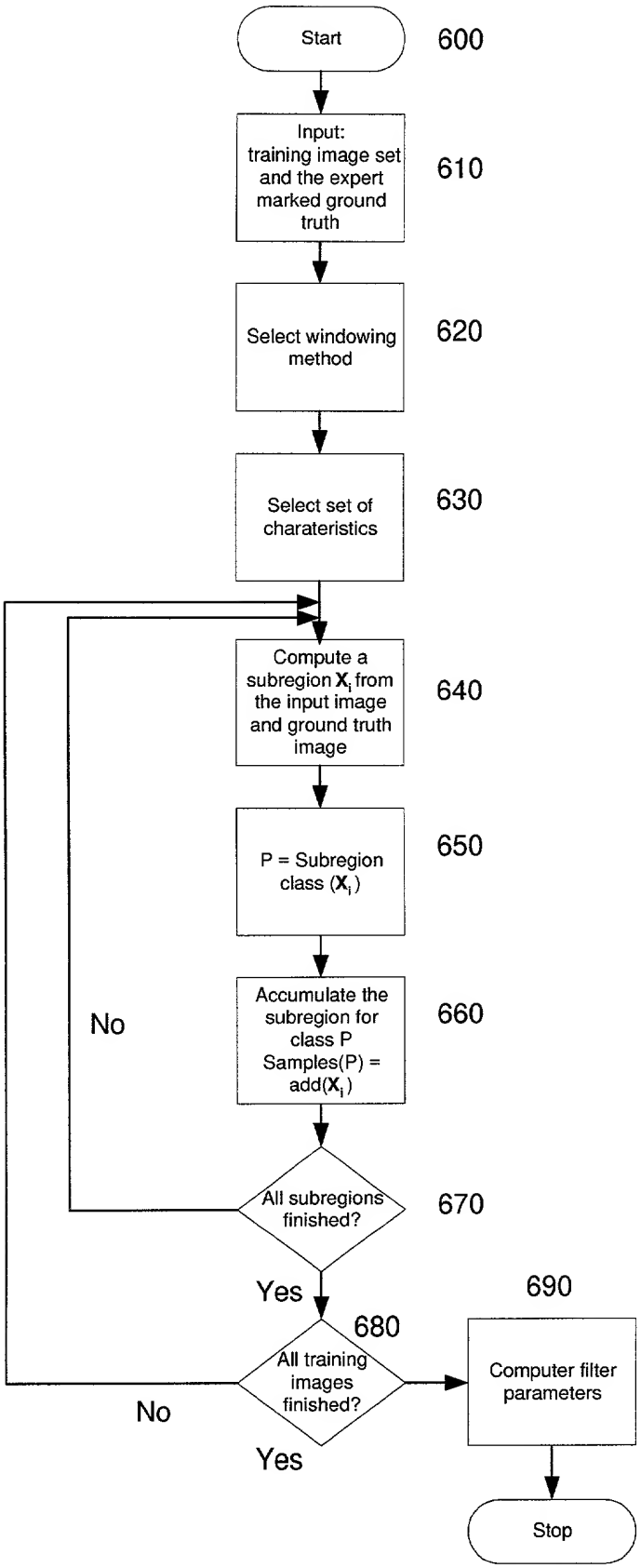
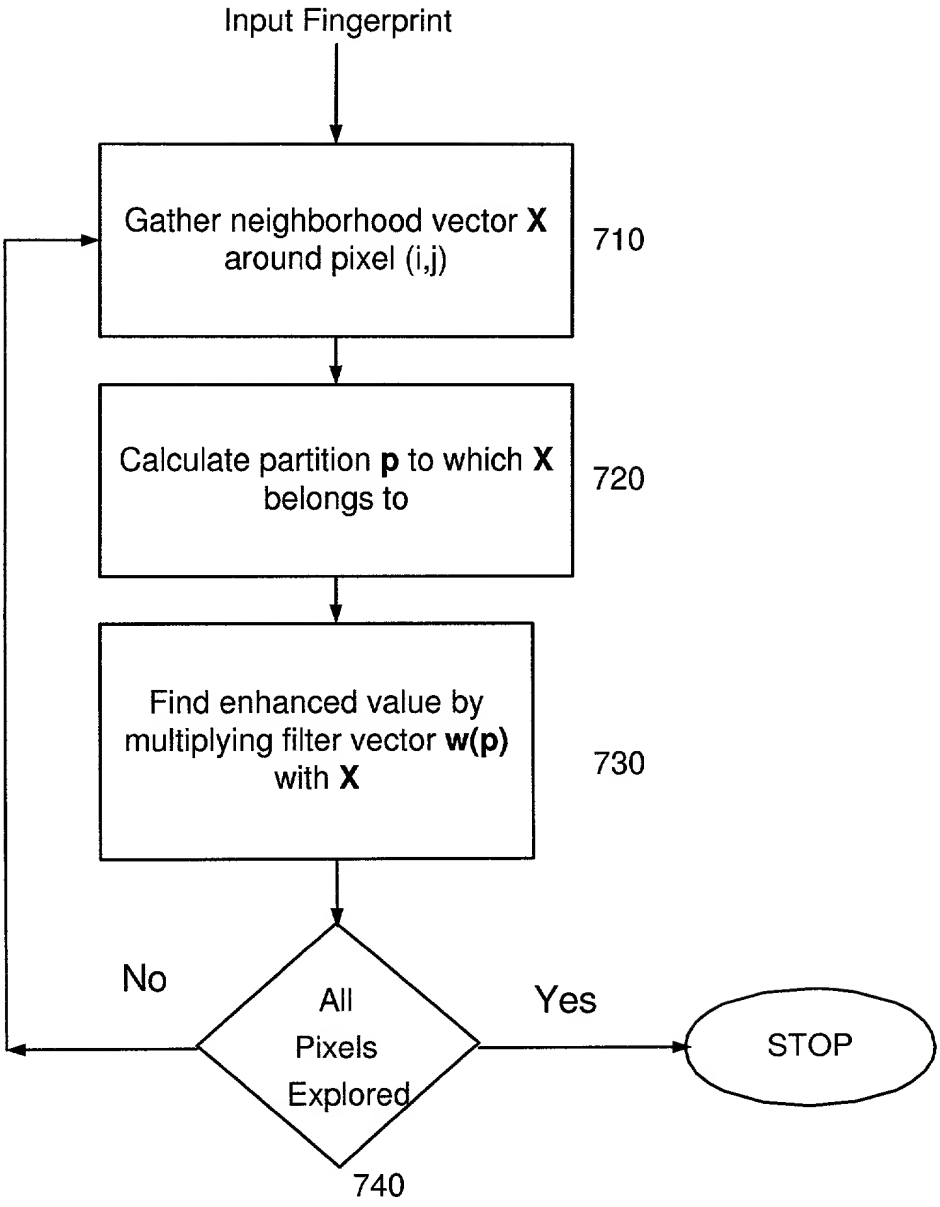

Start
600
Input: training image set and the expert marked ground truth
610
Select windowing method
620
Select set of charateristics
630
Compute a subregion X_i from the input image and ground truth image
640
P = Subregion class (X_i)
650
Accumulate the subregion for class P Samples(P) = add(X_i)
660
No
All subregions finished?
670
Yes
690
680
All training images finished?
Computer filter parameters
No
Yes
Stop



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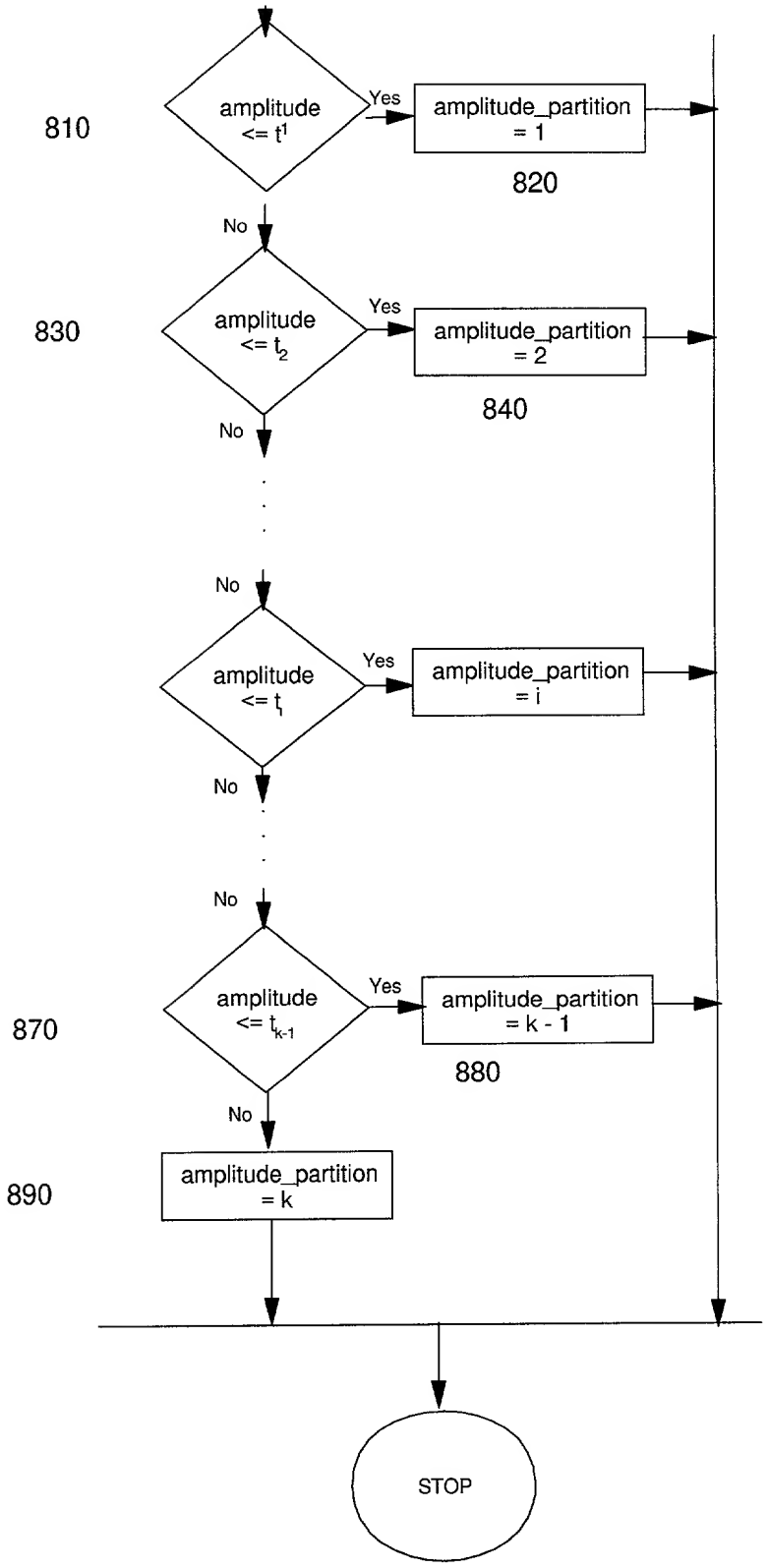
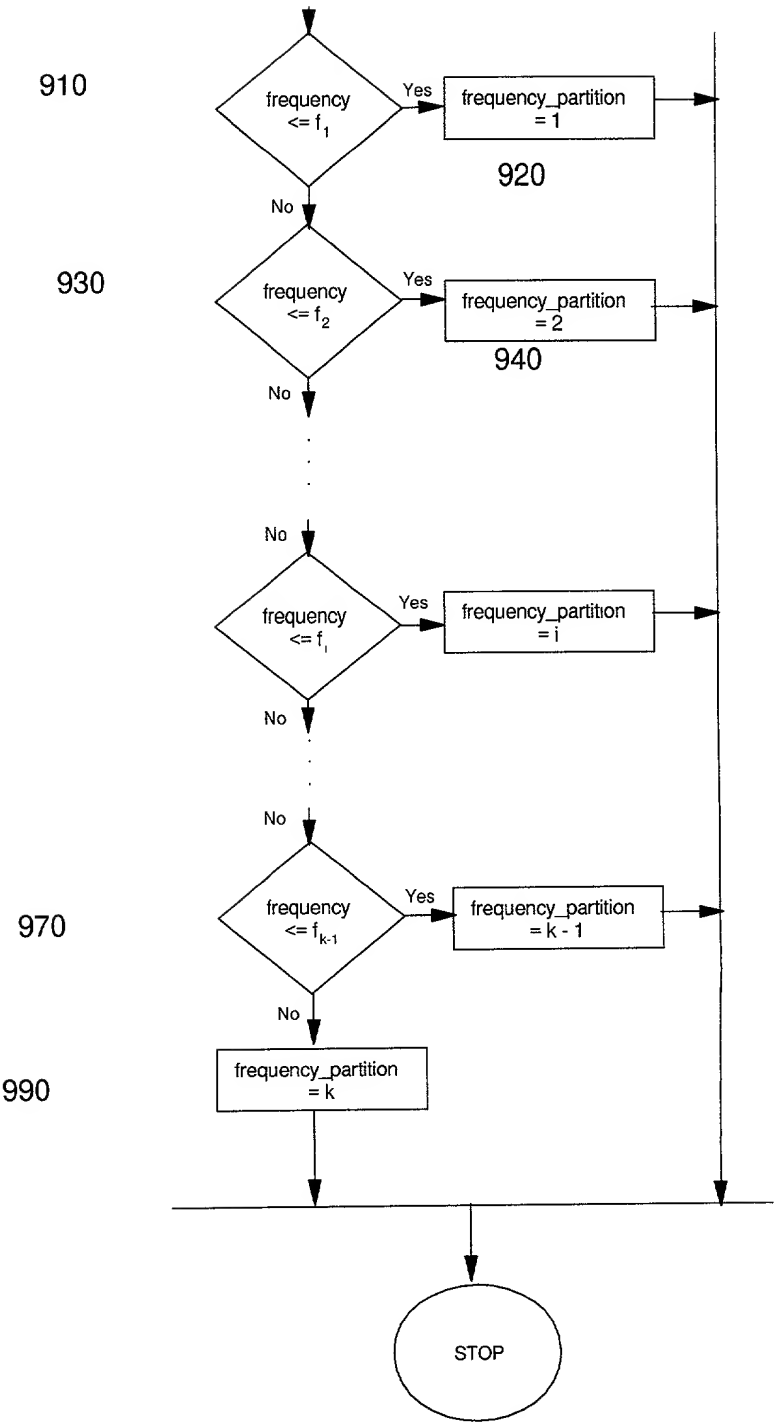
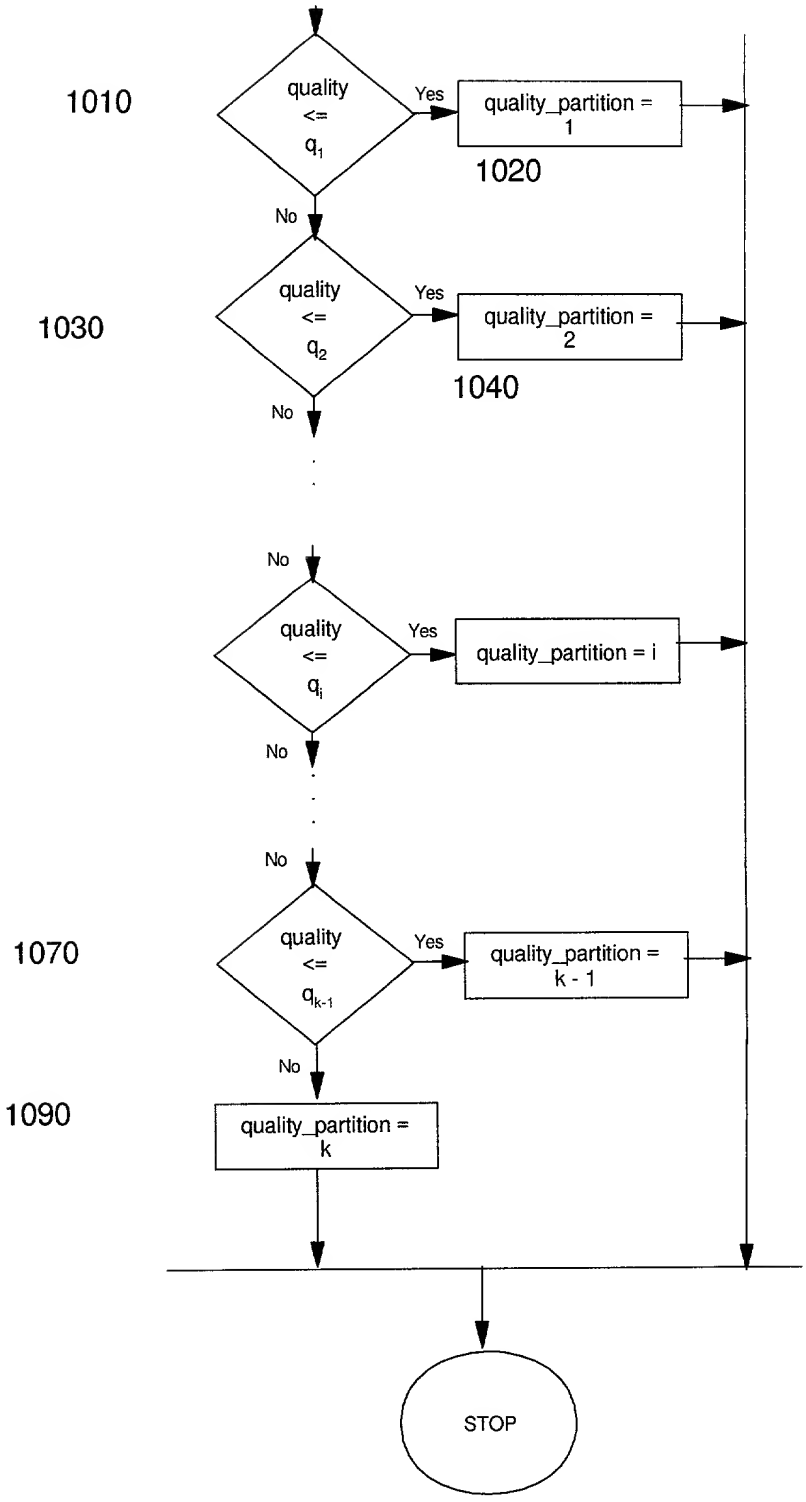
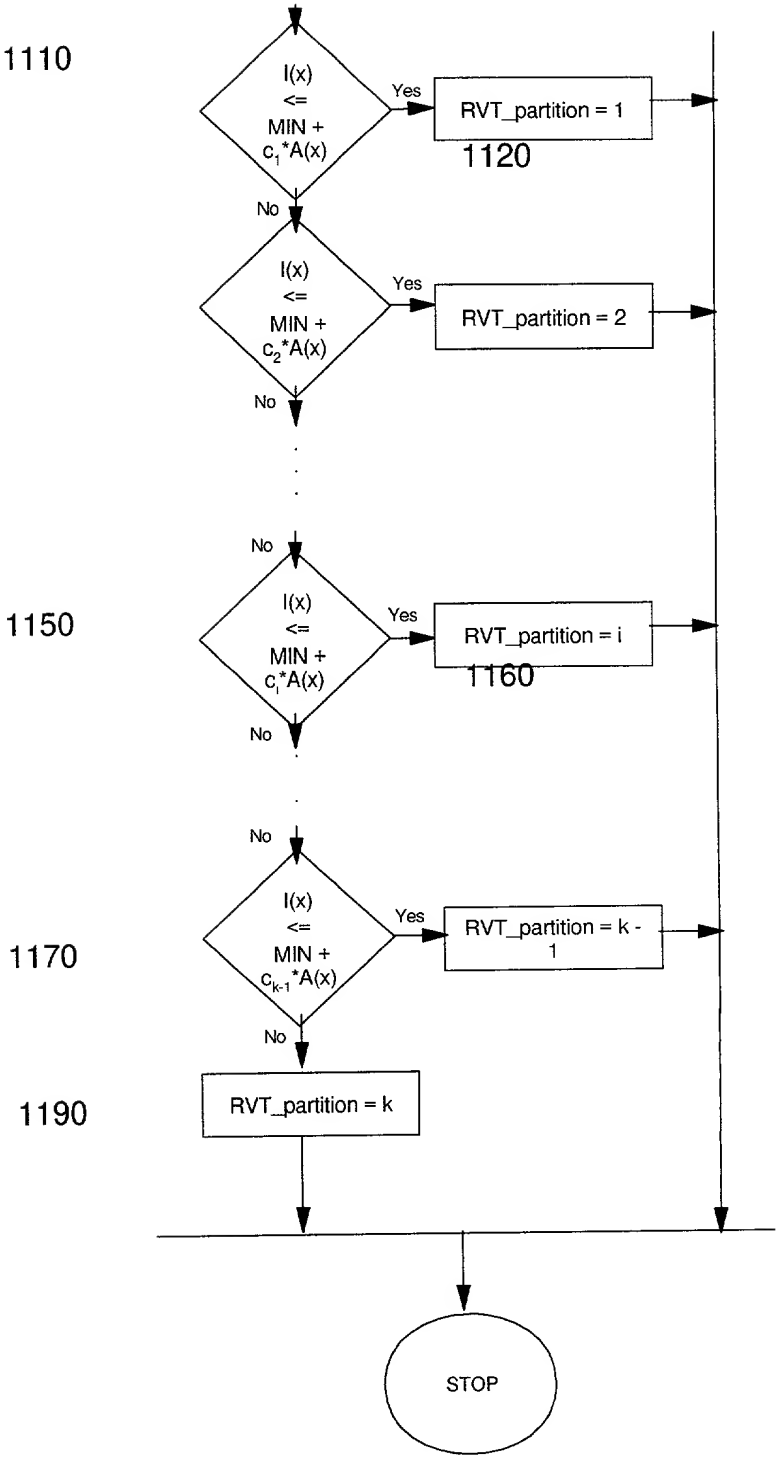


Docket No. YOR8-2000-0001


910
frequency <= f_1
Yes
frequency_partition = 1
920
No
930
frequency <= f_2
Yes
frequency_partition = 2
940
No
No
frequency <= f_i
Yes
frequency_partition = i
No
No
970
frequency <= f_{k-1}
Yes
frequency_partition = k - 1
No
990
frequency_partition = k
STOP

Sample Only


1010
quality <= q_1
Yes
quality_partition = 1
1020
No
1030
quality <= q_2
Yes
quality_partition = 2
1040
No
No
quality <= q_i
Yes
quality_partition = i
No
No
1070
quality <= q_{k-1}
Yes
quality_partition = k - 1
No
1090
quality_partition = k
STOP



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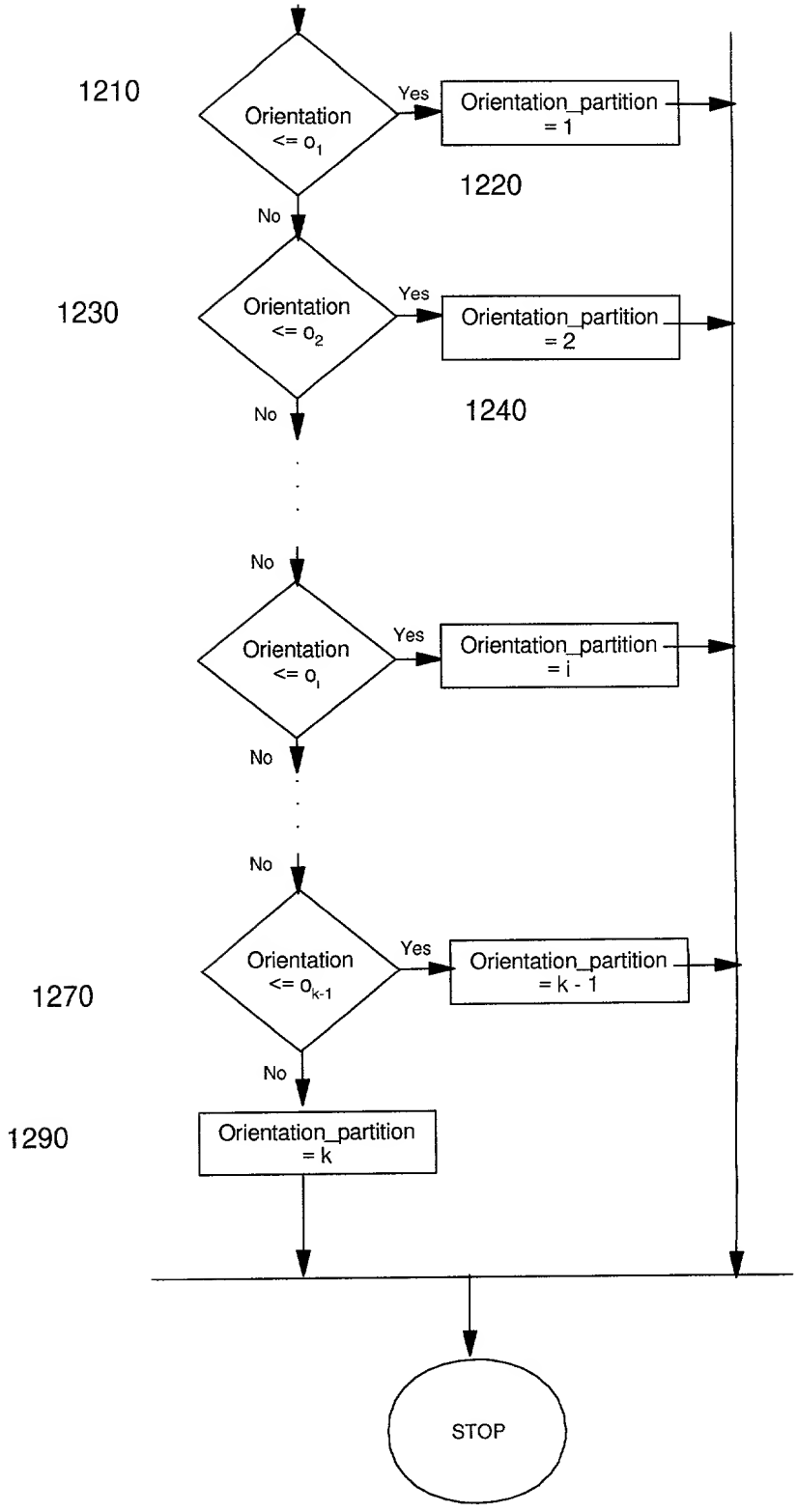
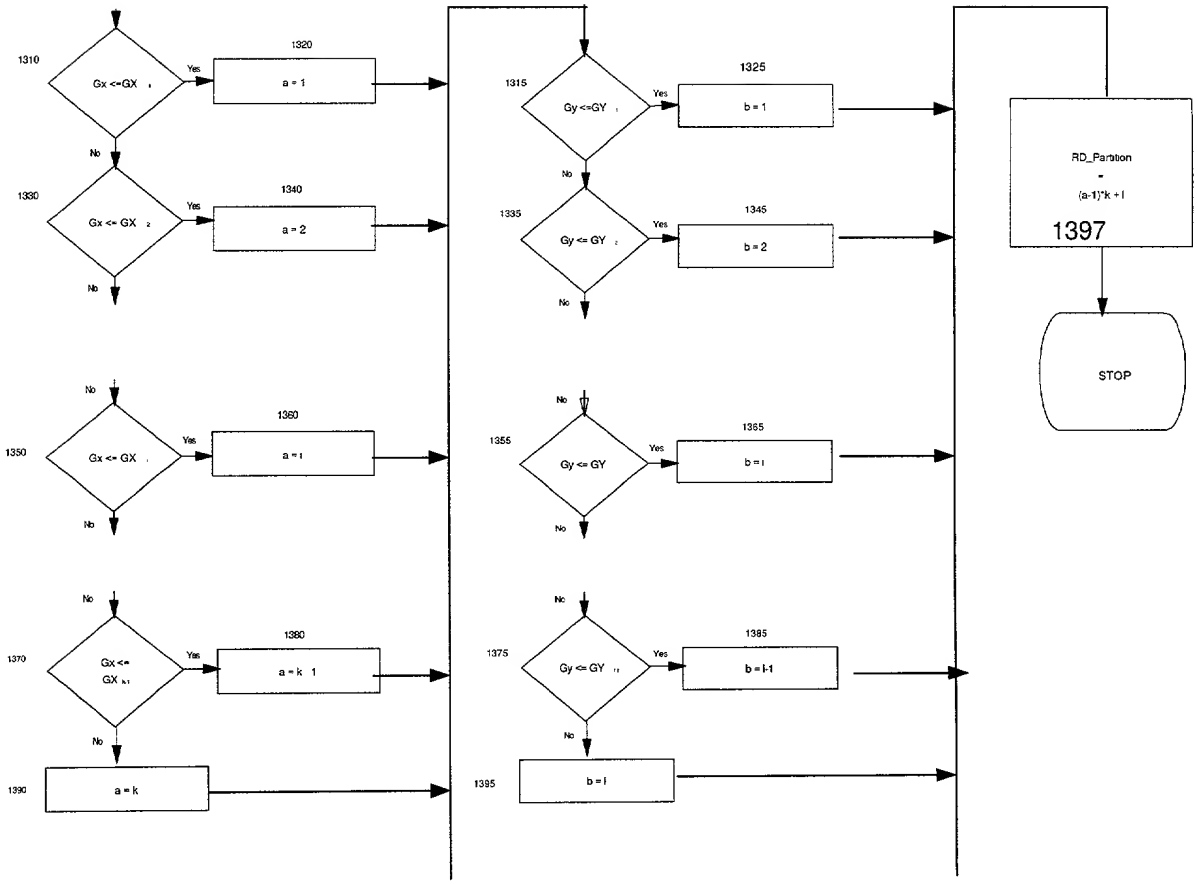

1210
Orientation <= o_1
Yes
Orientation_partition = 1
1220
No
1230
Orientation <= o_2
Yes
Orientation_partition = 2
No
1240
No
Orientation <= o_i
Yes
Orientation_partition = i
No
No
1270
Orientation <= o_{k-1}
Yes
Orientation_partition = k - 1
No
1290
Orientation_partition = k
STOP



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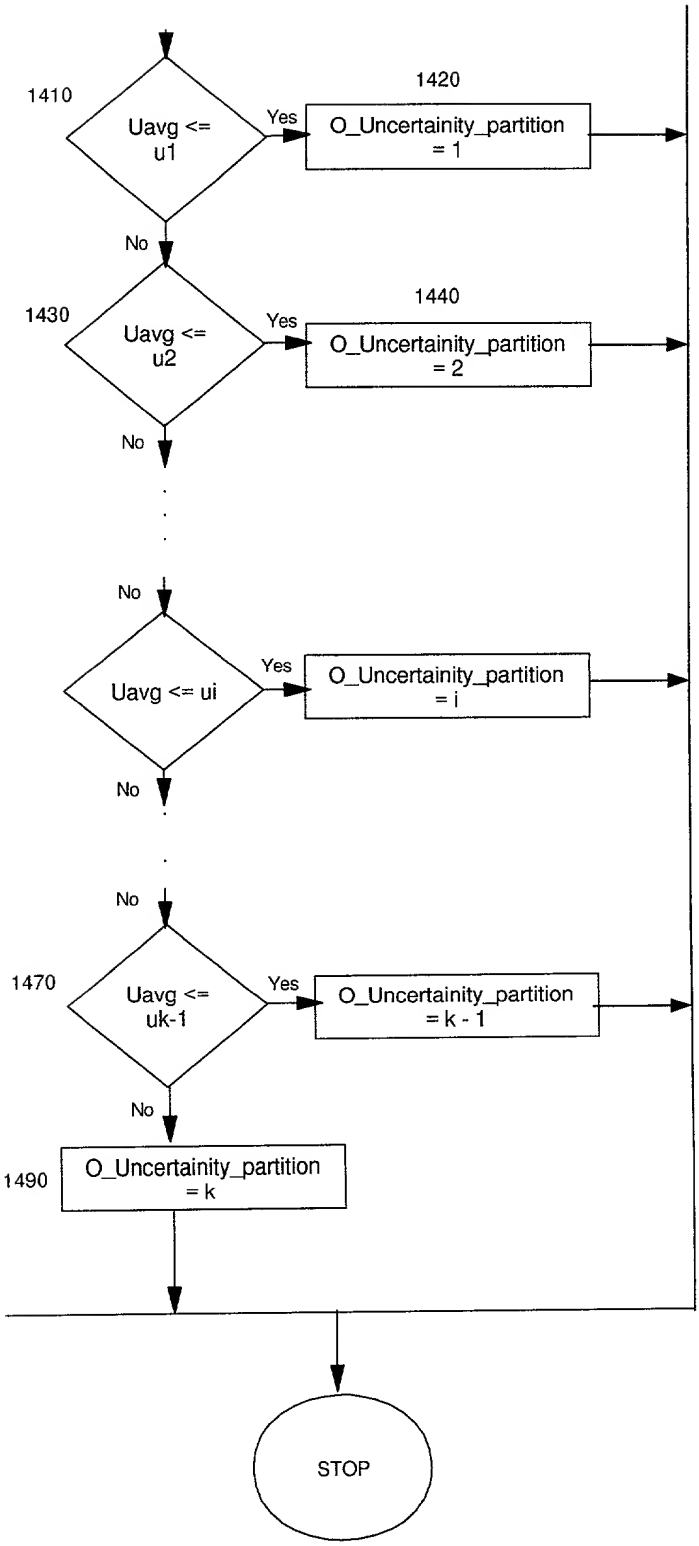
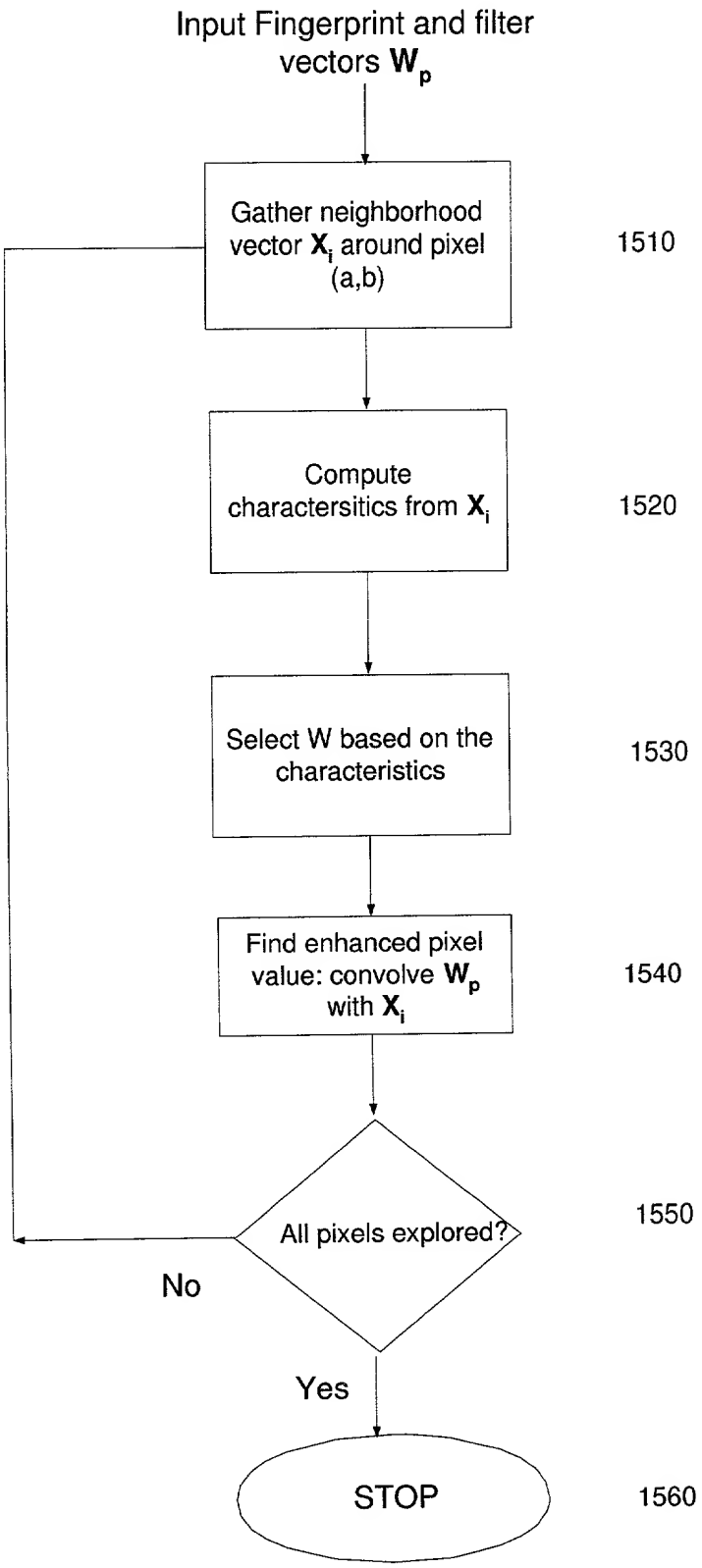

1410
Uavg <= u1
Yes
1420
O_Uncertainity_partition = 1
No
1430
Uavg <= u2
Yes
1440
O_Uncertainity_partition = 2
No
No
Uavg <= ui
Yes
O_Uncertainity_partition = i
No
No
1470
Uavg <= uk-1
Yes
O_Uncertainity_partition = k - 1
No
1490
O_Uncertainity_partition = k
STOP



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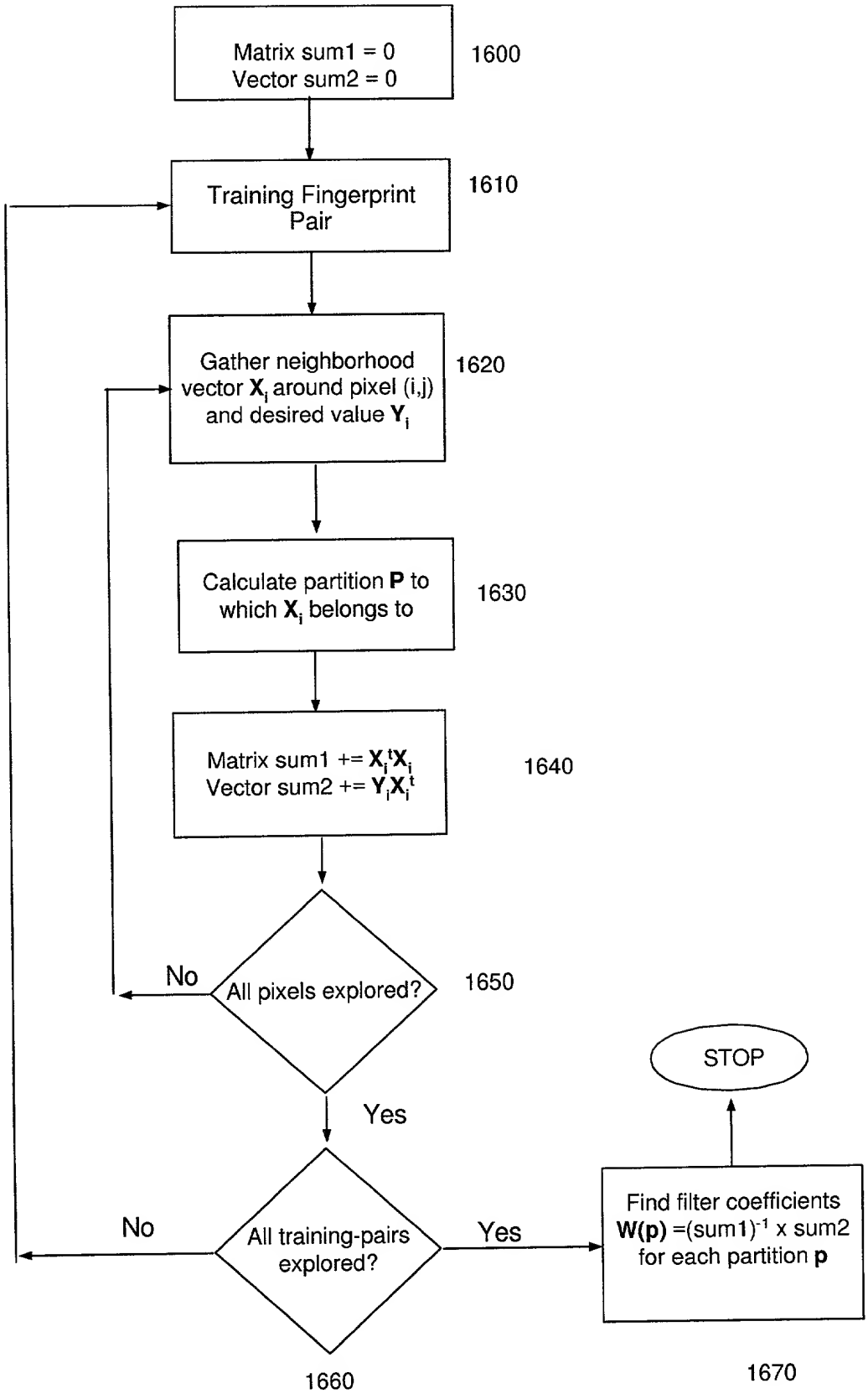

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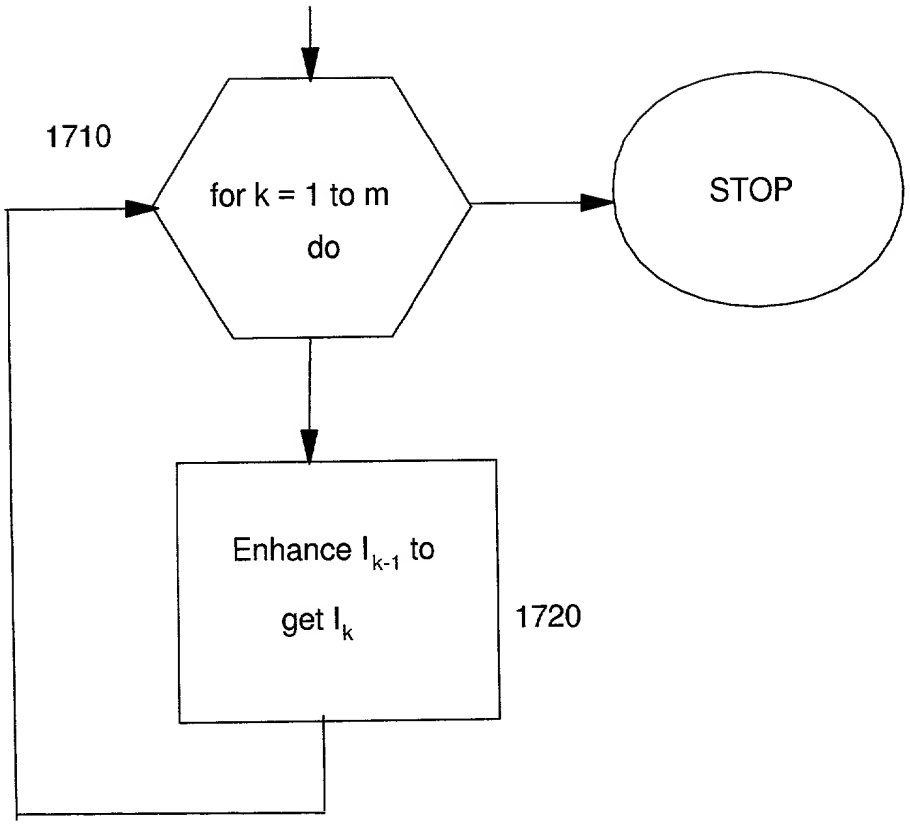
1710
for k = 1 to m
do
STOP
Enhance I_{k-1} to
get I_k
1720